

Appln No. 10/723,349
Amdt date January 4, 2006
Reply to Office action of October 4, 2005

Amendments to the Drawings:

The attached sheet of drawings includes a change to Figure 3. This sheet, which includes Fig. 3, replaces the original sheet including Fig. 3.

Attachment: Replacement Sheet

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REMARKS/ARGUMENTS

Claims 1-15 are pending in the present application, of which Claim 1 is independent. Claims 1-2 and 4-10 have been amended. Claim 3 has been cancelled. Claims 11-15 have been added. The Applicants respectfully request reconsideration and allowance of the application in view of the amendment and the following remarks.

The Examiner has objected to Figure 3 and Claims 2-10 for various informalities contained therein and suggested certain changes be made to Figure 3 and Claims 2-10. The identified informalities have been amended in the present amendment based on the Examiner's suggestions.

The Examiner has rejected Claims 1-3 under 35 U.S.C. § 103(a) as being obvious over Admitted Prior Art (APA) in view of Daanen (USPN 6307749). In addition, the Examiner has rejected Claims 4-10 under 35 U.S.C. § 103(a) as being obvious over APA in view of Daanen and in view of Shimizu (USPN 6201696). The Applicants respectively traverse these rejections. Also, the Applicants have amended Claims 1, 4, and 7 to better set forth the subject matter being claimed.

Specifically, the Applicants have amended Claim 1 to now recite a substrate for circuit wiring, comprising:

a metallic substrate;
an insulated layer deposited over said metallic substrate;
at least one electronic component mounted by soldering to a wiring pattern formed on said insulated layer; and
a resin for molding a mounting portion of said electronic component,
wherein said resin has a coefficient of linear thermal expansion smaller than the coefficient of linear thermal expansion of said insulated layer.
(Emphasis in underline added.)

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As such, the Applicants respectfully submit that amended Claim 1 is patentable over APA in view of Daanen under 35 U.S.C. §103(a).

Daanen discloses an over-molded electronic module 10 having a circuit board 12, IC packages 16 connected to the circuit board 12, a heat sink 18, and over-molded housing 22. Each of the IC packages 16 is contacted to pedestals 20 provided with the heat sink 18. Consequently, in the electronic module 10 of Daanen, the circuit board 12 does not contact the heat sink 18. Additionally, the IC package 16 of Daanen is not entirely covered with the resin material of the over-molded housing 22.

Therefore, the Applicants respectfully submit that the heat sink 18 of Daanen differs from the "metallic substrate" of the present invention, and the circuit board 12 of Daanen does not correspond to the "insulated layer deposited over the metallic substrate" of the present invention. As such, Daanen should not be combined with the APA. That is, in combining Daanen with the APA, the Examiner has merely selected unrelated prior art references in an attempt to reconstruct the Applicants' invention. It is impermissible to use inventor's disclosure as a "road map" for selecting and combining prior art disclosures. In *Interconnect Planning Corp. v. Feil*, 774 F.2d 1121, 1138 (Fed. Cir. 1985), the Federal Circuit noted that "[t]he invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time." Likewise, in *In re Fritch*, 972 F.2d 1260, 1266 9 (Fed. Cir. 1992), the Federal Circuit admonished against hindsight reconstruction of an invention. According to the Federal Circuit:

[I]t is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. ... This court has previously stated that '[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.'

See also *In re Gorman*, 933 F.2d 982, 987 (Fed. Cir. 1991 ("As in all determinations under 35 U.S.C. § 103, the decisionmaker must bring judgment to bear. It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the Applicant's structure as a template and selecting elements from references to fill the gaps."))

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Additionally, the Applicants' respectfully submit that, since Daanen suggests only a magnitude relationship of the coefficient between the coefficient of linear thermal expansion of the circuit board 12 and the coefficient of linear thermal expansion of the over-molded housing 22, the reference Daanen does not teach a person skilled in the art that the "resin" of the present invention has a smaller coefficient of linear thermal expansion than that of the insulated layer, as recited in amended Claim 1. As such, the Applicants respectfully submit that Claim 1 should be allowable over Daanen for this additional reason (i.e., "said resin has a coefficient of linear thermal expansion smaller than the coefficient of linear thermal expansion of said insulated layer" as defined in Claim 1).

Dependent Claims 2 and 4-10 depend (directly or indirectly) from amended Claim 1. Also, to better set forth the subject matter being claimed, the Applicants have amended Claims 4 and 7. As such, a *prima facie* case of obviousness has not been established for dependent Claims 2 and 4-10 because the APA, Daanen, and/or Shimizu do not disclose each and every limitation of these dependent claims. See MPEP § 2143.03 ("To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.")

In addition, Claim 7, for example, should be independently allowable for its recitations that "the mounting portion of said electronic component is all-enclosed and molded by said resin with said insulated layer and said metallic substrate in integral fashion." (Emphasis in underline added.)

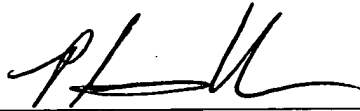
New Claims 11-15 have been added. The new claims depend from amended Claim 1.

In view of the foregoing, the Applicants respectfully submit that Claims 1-15 are in condition for allowance. Reconsideration and withdrawal of the rejections are respectfully requested, and a timely Notice of Allowability is solicited.

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If there are any remaining issues that can be addressed over the telephone, the Examiner is encouraged to call Applicants' attorney at the number listed below.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By 
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